REMEDIAL ACTION PLAN

U-Haul Center #708-57

3601 Santa Rosa, Santa Rosa, California

Prepared for:

AMERCO Real Estate Company

2727 North Central Avenue

Phoenix, Arizona 85004

Prepared by:

SOTA Environmental Technology, Inc.

5151 Shoreham Place, Suite 260

San Diego, CA 92122

March 14, 2006

Project No. 93HW014

SOTA Environmental Technology, Inc.

ENGINEER'S CERTIFICATION

I certify that the work performed and the report prepared herein was conducted under the direct supervision of the undersigned who is a Registered Civil Engineer and Registered Environmental Assessor in the States of California and Arizona.

Dakshana Murthy, Ph.D., P.E., R.E.A.
California Registered Environmental Assessor #01046 Expires on 6-30-06
California Registered Civil Engineer #36331 Expires on 6-30-08
Arizona Registered Civil Engineer #29090 Expires on 6-30-08

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1.0 INTRODUCTION

SOTA Environmental Technology Inc. (SOTA) is pleased to submit a remedial Action Plan (RAP) for U-Haul Center #708-57, located at 3601 Santa Rosa Avenue, Santa Rosa, California (Figure 1). The RAP is prepared in accordance with (a) the Corrective Action Plan (CAP) prepared by SOTA and approved by County of Sonoma Department of Health Services (DHS) Environmental Health Division; (b) County of Sonoma DHS Environmental Health Division, Hazardous Materials Program, Leaking Underground Storage Tank Program, Guidelines for Site Investigation – Nov. 1992, (c) UST regulations included in the California Code of Regulation (CCR), Article 11, Title 23, Division 3, Chapter 16, Article 11, Sections 2720 and 2725 through 2728, the California Health and Safety Code, Division 20, Chapter 6.7, Section 25280(b), and (d) Tri-Regional Board Staff Recommendations for Preliminary Investigations and Evaluation of Underground Tank Sites – August 1990, March 1994.

2.0 SITE BACKGROUND AND PREVIOUS INVESTIGATION

The U-Haul site had originally contained a total of three USTs of capacities ranging between 550 gallons to 15,000 gallons (Figure 2). In March 1987, the 550-gallon waste oil UST, was removed from the north portion of the site. In September 1993, the 10,000-gallon gasoline UST and 15,000-gallon diesel oil UST were removed from the central portion of the site.

2.1 Site Identification

Complete site address: 3601 Santa Rosa Avenue
Santa Rosa, CA

Assessor's parcel number (APN): 134-123-034

Property owner's/Responsible Party's information:

AMERCO Real Estate Company
2727 North Central Avenue
Phoenix, Arizona 85004

Current Consultant's Contact Information:

SOTA Environmental Technology, Inc.
5151 Shoreham Place, Suite 260
San Diego, CA 92122
858-404-7390

LOP Case Number: 00002091

2.1 Waste Oil UST

The former waste oil tank pit area was located east of the U-Haul maintenance area and south of the U-Haul Center property fence (Figure 3). After the waste oil UST removal in 1987, an approximately 6-feet wide by 10-feet long tank pit excavation was partially filled with construction debris and residual contaminated soil. The area was fenced to prevent any

unauthorized entry. In January 1988, four soil borings were drilled adjacent to the former waste oil UST pit area. Three of soil borings were converted to monitoring wells. In March 1988, a shallow vapor gas survey was conducted in the vicinity of the former waste oil excavation. In October 1988, one of the monitoring wells near the waste oil tank was abandoned. SOTA, on October 20, 1994, over excavated the former waste oil tank pit area and backfilled with imported clean soil and paved the surface with concrete. The over excavation activities were inspected by the County of Sonoma DHS. A total of seven discrete soil samples were collected during over excavation and analyzed by Del Mar Analytical of Irvine, California. Minor concentrations of TRPH and BTEX were detected in the bottom and south side wall of the tank pit. Approximately, 50 cubic yards of soil was transported, and disposed of at BFI Waste System, 4001 North Vasco Road, Livermore, California on December 19, 1994 by Den Beste Transportation, Inc. of Novato, California. Based on the laboratory test data and non-detect gasoline, diesel, BTEX in groundwater monitoring data collected at well MW-1 in June 2005, it was concluded that excavation of residual contaminated soil around the waste oil UST was complete.

2.2 Gasoline and Diesel USTs

In March 1988, a shallow vapor gas survey was conducted around the 15,000 gallon capacity UST used to store gasoline. In January 1989, the 15,000-gallon UST was found to be leaking. It was estimated that approximately 1,100 gallons of regular gasoline was released. It was understood that the leak had been repaired and the UST was reused to store diesel fuel.

In January 1989, monitoring well (J-01) was installed a few feet south of the 15,000-gallon UST. Earthtech Ltd. conducted a preliminary site assessment during September 1990. The site assessment included drilling three soil borings around the former waste oil tank and one near the 15,000-gallon UST. Two groundwater-monitoring wells (MW-1 and MW-2) were installed near the former waste oil UST and the fuel dispenser island. Results of laboratory soil analyses indicated elevated concentrations of petroleum constituents, oil and grease, and heavy metals. Analysis of groundwater indicated free product at MW-2, and marginally elevated TPH/BTEX concentrations at MW-1.

During September 1991, per County of Sonoma DHS direction, an interim free product recovery system was installed at MW-2 and approximately 100 gallons of free product was recovered.

In August 1991, Earthtech conducted an extensive soil gas survey to delineate the aerial extent of the hydrocarbon plume. During February 1992 and August 1992, at the request of the Sonoma County Environmental Health Services, a second phase site assessment was conducted by Earthtech. Results of the laboratory tests indicated that the soil contamination was typically restricted at the capillary fringe. The interpretation of the analytical data concluded that the western, northwestern, and southwestern edges of the contamination plume were defined.

On August 26, 1993, SOTA submitted an Interim Remedial Action Plan (IRAP) to remove both the 10,000-gallon and 15,000-gallon USTs, monitor the limits of excavations, backfill the pits, and remove any floating free product. On September 29, 1993, the two USTs were removed by Post-Pisani Construction, Inc. of Sacramento, California under the CSDHS environmental health specialist's supervision. A total of 350 cubic yards petroleum contaminated soils were excavated and disposed of at the Redwood Landfill Facility of Novato, California, in accordance with all applicable federal, state, and local laws, rules, and regulations under the direct supervision of the

County of Sonoma DHS. Findings for the USTs removal, soil excavation and disposal, and confirmatory soil sampling activities are presented in Figure 3 and Table 1 and in the tank removal report (SOTA, 1993). At present, SOTA is conducting groundwater monitoring program at the subject site on a semiannual basis. The last monitoring event took place in December 2005. The extents of soil and groundwater contamination are present in Section 3.0.

2.3 Local Geology and Hydrogeology

The Santa Rosa Valley is a structural basin that has been filled with as much as 4,000 feet of alluvial deposits. Principal geologic units in the Santa Rosa Valley include Holocene alluvium consisting of unconsolidated gravel, sand, silt, and clay; Pleistocene alluvium primarily consisting of slightly indurate lenticular beds of silty clay, silt, sand, and gravel; Pleistocene Glen Ellen and Merced Formation consisting of consolidated interfingered coarse grain alluvial fan and fine grain lacustrine deposits, indurated Pliocene Sonoma Volcanics, and basement rocks of Jurassic to Cretaceous Franciscan Assemblage. It is likely that the more recent (Holocene and Pleistocene) alluvial sediments in the site vicinity were deposited by ancestral southwest flowing Santa Rosa and Matanzas Creeks.

Natural topography surrounding the site gently slopes to the southwest. The surface drainage is generally a sheet flow in the same direction. The site is located at approximately 100 feet above mean sea level. Site soils consist predominantly of sandy gravel, gravelly silty sand, silty clayey sands, sandy clayey silts, and sandy silty clay.

The site is located in the Russian River Hydrologic Unit (RWQCB, 1996). Current and potential beneficial uses of groundwater and nearby surface waters have been designated by the Regional Water Quality Control Board (RWQCB). Groundwater basin in this area is Santa Rosa Valley, which has existing beneficial uses as domestic supply. The nearest surface water body is the Kawana Springs which eventually drains into Russian River. Russian River has existing beneficial uses as municipal and domestic, agricultural, industrial process and service supply, and groundwater recharge. Beyond this, it provides uses of water as navigation, hydropower generation, contact and non-contact water recreation, commercial and sport fishing, warm, cold, and wild freshwater habitats, migration of aquatic organisms, spawning, reproduction, and/or early development, estuarine habitat, and habitat for rare, threatened, or endangered species. The nearby river Laguna de Santa Rosa, has existing beneficial uses as agricultural, industrial process and service supply, contact and non-contact water recreation, commercial and sport fishing, cold, and wild freshwater habitats, migration of aquatic organisms, and potential use as aquaculture.

2.4 Groundwater

A recent groundwater gradient map (December 2005) is presented as Figure 2. Depths of groundwater were in the range of 7.46 feet bgs in well MW-103 to 13.08 feet bgs in well MW-101. The hydraulic gradient at this site is relatively flat, estimated at 0.006 to 0.01 ft/ft. The direction of groundwater flow within the uppermost, shallow aquifer is generally toward the east around the former diesel and gasoline UST area, and towards northwest around the former waste oil UST area. A summary of these measurements is listed in Table 2. The site-specific hydraulic conductivity and effective porosity data for the site are not available. SOTA estimated hydraulic conductivity and the effective porosity for the site based on the type of the underlying aquifer material, and literature data. The hydraulic conductivity was estimated at 0.01 feet per day and

effective porosity (specific yield) at 25 %. An average horizontal seepage velocity beneath the site is extremely low and was estimated at 0.14 feet/year.

Based on SOTA personnel's visual site inspection results, and review of the regulatory agency information, the upper most aquifer beneath the site and in the immediate vicinity of the subject site is not currently utilized for water supply. No future uses of groundwater in the immediate vicinity of the subject site have been identified. It is unlikely that groundwater in the upper most aquifer will be utilized in the future due to extremely low water bearing characteristics (very low hydraulic conductivity and transmissivity). No water supply wells (domestic, municipal or agricultural wells) were identified beneath and in the immediate vicinity of the subject site. Also, no surface water, ponds, surface impoundments, streams, creeks, wetlands or waste disposal facilities/structures were found at the subject site or within 750 feet of the site. No basements were identified in the buildings at the subject site. The only structures that may act as potential vapor petroleum receptors identified at the site are utility line trenches and vaults (sanitary sewer, water line, telephone, and electric trenches), however, they are relatively shallow (2 feet to 4 feet bgs) comparing to the source of the petroleum release (15 feet to 20 feet bgs).

3.0 EXTENT OF CONTAMINATION

The following sections describe a lateral and vertical extent of residual soil contamination and petroleum hydrocarbon plumes in groundwater underneath the site (Table 1 and Table 3). Figure 3 show approximate horizontal extent of petroleum impacted soils at the site. Figure 4 shows the December 2005 groundwater quality at the site.

3.1 Extent of Soil Contamination

A summary of historical soil chemical data is presented in Table 1. In general, the extent of the residual petroleum-hydrocarbon impacted soils are confined to the immediate vicinity of the former diesel and gasoline UST locations and has been biodegraded and are limited in small pockets between 15 feet bgs to 20 feet bgs.

3.2 Extent of Groundwater Contamination - TPH

In December 2005, it appears that the diesel and gasoline plume were fairly stable. The diesel plume was centered near monitoring wells MW-2, J-01, and MW-103 around former diesel UST. The gasoline plume in groundwater at the site was centered in the area of the monitoring wells MW-2, J-01, MW-101, MW-103, and MW-301 around the former gasoline and diesel USTs. Detections of gasoline and diesel ranged hydrocarbons in MW-2 and J-01 have decreased from previous monitoring events. Based on the historical monitoring data, it seems that TPH plume has not migrating off-site.

3.3 Extent of Groundwater Contamination - BTEX and MTBE

The benzene plume was similar to the gasoline plume and was centered near monitoring wells MW-2, J-01, and MW-103. Detections of BTEX in these wells have decreased from previous investigations. The MTBE plume was centered east and south of the monitoring wells MW-2, J-01, and MW-101. Dissolved concentrations of MTBE in groundwater that exceed the state MCL

of 13 μg/L were still detected in four monitoring wells during the December 2005 sampling event.

4.0 CLEANUP LEVELS

The objective of the proposed remediation program described herein is to reduce the residual concentrations of petroleum hydrocarbon constituents in the groundwater to below cleanup levels acceptable to the California Regional Water Quality Control Board (RWQCB), North Coast Region (1). The soil and groundwater contamination assessment and monitoring activities conducted on the subsurface soil and groundwater contamination that will serve as the basis for the plan described herein. The extents of soil and groundwater contamination are described in Section 3.0.

4.1 Groundwater Cleanup Levels

The site-specific cleanup is the goal for protecting human health and the environment at the site. The cleanup levels specify contaminants and media of concern and preliminary remediation goals. The proposed target groundwater clean-up levels for the site are the current established RWQCB, North Coast Region (1) groundwater clean up levels. The proposed target (driven) groundwater cleanup levels for the site are in accordance with the RWQCB, North Coast Regional Water Quality Objectives:

TPHg – 50 μg/L
TPHd – 56 μg/L
Benzene – 1 μg/L
Toluene – 42 μg/L
Ethylbenzene – 29 μg/L
Xylenes – 17 μg/L
MTBE – 5 μg/L

4.2 Soil Cleanup Levels

The target soil cleanup levels must ensure that remaining leachable/mobile constituents of concern do not threaten to cause groundwater to exceed applicable water target cleanup levels. The proposed target (driven) soil cleanup levels for the site are in accordance with the RWQCB, San Francisco Region (2) Environmental Screening Levels (ESLs) for shallow (less than 3 meters bgs.) and deeper (more than 3 meters bgs.) soil for water is a current or potential source of drinking water:

TPHg – 100 mg/kg
TPHd – 100 mg/kg
Benzene – 0.044 mg/kg
Toluene – 2.9 mg/kg
Ethylbenzene – 3.3 mg/kg
Xylenes – 1.5 mg/kg

MTBE – 0.023 mg/kg

5.0 REMEDIAL ACTION IMPLEMENTATION

According to the CAP, the proposed in-situ chemical oxidation with strong oxidant such as ozone is an innovative remedial technology that reduces concentrations of hydrocarbon constituents (i.e., gasoline, diesel, BTEX, and fuel oxygenates) that are adsorbed to soils and dissolved in groundwater. Based on the comparative evaluation of the three Remedial Alternatives, in-situ chemical oxidation using ozone is the most cost-effective method of achieving the source reduction. In addition, the pilot study conducted during June of 2005 at this site and the data generated confirmed that the in-situ chemical oxidation is technically feasible and applicable for the subject site. The Sanoma County DHS approved the use of chemical oxidation methods for this site. The in-situ process oxidizes the petroleum hydrocarbons into mineralized products such as carbon dioxide, salts, and readily biodegradable organic fragments. The process also involves a production of a highly reactive hydroxyl radical, which is among the most powerful oxidizer available. Ozone and its intermediate product (i.e., hydroxyl radical) degrade toxic, refractory or bio-inhibitory organics, rendering them more amenable to biodegradation. The process is easily applied and controlled, which can be tuned for the degree of contaminant removal desired. The process occurs rapidly, lasting from a few hours to weeks, depending on the plume size.

Based on the evaluation of the current site condition data, the pilot study data, and the radius of influence of approximately 15 feet of ozone sparging, seven ozone sparge points will be required in the area of the monitoring wells MW-2, J-01, MW-101, MW-103, and MW-301 around the former gasoline and diesel USTs to treat the source area. One sparge point is located downgradient of the remediation area, if any off site migration of the dissolved plume is reported, ozone will be injected into the point to stop possible off site migration of the dissolved plume. The existing monitoring wells will be used to monitor the performance of the remedial system in groundwater. At the end of the remedial implementation, soil samples will be collected for confirmatory purpose and to evaluate the impact of the remedial action in soil. The detail procedures are discussed in the following subsections.

5.1 Drilling and Installation of Sparge Points

In addition to the two existing proprietary Max-Ox ozone sparge points (i.e., RE-1 and RW-2) at the site, six new Max-Ox ozone sparge points (RW-3 through RW-8) are proposed and will be drilled and installed on site in the area of the monitoring wells MW-2, J-01, MW-101, MW-103, and MW-301 around the former gasoline and diesel USTs. The well locations are indicated on Figure 5. Ozone sparge points RW-1 through RW-7 are targeted to treat the source area. RW-8 is located downgradient of the remediation area, if any off site migration of the dissolved plume is reported, ozone will be injected into the well RW-8 to stop possible off site migration of the dissolved plume. A well permit will obtained from the County of Sonoma DHS prior to drilling. All drilling activities will be performed by a C-57 licensed drilling contractor in accordance with the conditions of the approved well permit under the supervision of a registered civil engineer or registered geologist. The utility clearance survey will be secured prior to the commencement of fieldwork.

The proprietary Max-Ox point is designed to maximize the distribution of reagents in the subsurface and to extend the influence area surrounding each injection point. To install the Max-

Ox ozone sparge point, an eight inches diameter borehole will be advanced into the aquifer through the source area to a depth of 24 feet bgs, using a truck-mounted drill rig equipped with hollow-stem augers. The depth may be changed based on the field conditions during the drilling. The Max-Ox ozone sparge points are pre-fabricated and constructed of stainless steel to ensure compatibility with the chemicals to be injected. The ozone-only Max-Ox point consists of a stainless steel, 0.02 inch, slotted screened diffuser at the end for oxygen/ozone injection and is approximately 3 feet long. The Max-Ox point is connected to the wellhead through a Type 304L stainless steel riser pipe and stainless steel fittings. After drilling tools are retrieved from the borehole, a twenty feet length of stainless steel riser pipe will be threaded onto the ¾"terminal stainless steel fittings of the 3-feet long pre-fabricated stainless steel Max-Ox point. The Max-Ox point will be installed into the borehole and set approximately 1.0 foot off bottom of borehole. The Max-Ox injection well construction will follow well construction drawing and specifications provided by Applied Process Technology, Inc. The annular space around the ozone screen will be filled with #2 /12 sand filter pack to a minimum of 1.0 foot above the top of the screen. A layer of bentonite (minimum of one foot thick) will be added to the annular space above the top of the sand pack. Neat cement will then be used to fill the space between the well case and the stainless steel diffuser point to prevent leakage. The well will be finished at the ground surface with threaded caps on each riser pipe. The riser pipe will be vertically offset 6 inches to accommodate final wellhead piping. The well will be finished with a traffic grade access well box vault and be mounted flush to grade.

5.2 Remedial System Installation

The customized Pulse OX-100 chemical oxidation system (supplied by Applied Process Technology, Inc., Pleasant Hill, CA) will be installed at the site and located near the northern portion of the site (Figure 5). The remedial system included the customized Pulse OX-100 ozone system, an oil-less compressed air subsystem to provide pressured air, and a programmable logic controller to control the operation and distribution of the ozone delivery system. The system is available as a weather resistant cabinet or a trailer system. The size of the standard carbinet Pulse OX-100 system is approximately 3 feet (width) x 3 feet (length) x 4 feet (height). The system has a lockdown structure to anchor the system to a concrete pad or the system can be installed in a trailer. The Pulse Ox-100 can be customized to maximum of 4 lbs/day ozone production system. The compressed air system will provide up to 3.7 cubic feet per minute of compressed air. Manifold system will be used to deliver ozone and air to the ozone sparging wells. The ozone system is configured to a 115 Volts, single phase and 60 Hz (15 amp) power supply. The compressed air system is configured to a 115 Volts, single phase and 60 Hz (20 amp) power supply. All breakers will be GCFI rated and an emergency shutoff switch will be mounted on the exterior of the structure.

The in-situ ozone system will be plumbed accordingly and all mechanical devices (motors, interlocks, and level sensors) will be wired to a local control panel and breaker box. The eight air/ozone sparging points will be connected to the customized Pulse OX-100 system via Teflon delivery piping network. Ozone will be delivered through the closed ozone compatible delivery Teflon piping system to the ozone sparging wells via a stainless steel diffuser point. 12-inch deep by 8-inch wide trenches will be excavated to allow the piping system (i.e., the 3/8 inches Teflon piping system protected by 2-inches ID schedule 40 PVC conduits or equivalent conduits) lies in the trenches. The trench will then be packed with compacted native material and finished with asphalt or concrete to the ground surface. The trench locations are indicated on Figure 5.

5.3 Initial Testing

The initial testing will consist a minimum of three-day field monitoring and leak testing (starting between Monday to Wednesday) with the County of Sonoma DHS's oversight. A leak test will be performed on each sparge point and ozone system. The test will consist of pressurizing the ozone piping system with air (approximately 30 psi) and check for leakage at every joint. The system will be considered to pass the test if the pressure drop during the test is less the 2 psi for a minimum of 30 minutes. After the system passes the leak test, the system will then start to generate ozone and a handheld ozone detector will be used to check any ozone leakage at each connection point.

5.4 Remedial System Operation and Maintenance

The customized Pulse OX-100 ozone sparging system is fully automated and is capable of operating continuously 24 hours a day and 7 days a week with minimal operator assistance required. The ozone sparging system at this site will be continuously operated for approximately 1.5 years and will in accordance to the manufactures operation and maintenance manual and guidance. The O&M technician will make routine site visits during the remedial action, according to the manufacture operation and maintenance procedures. During each site visit, the chemical oxidation system will be checked for proper operation. Each operating point will be accessed and inspected for leaks, verification of flow, and piping integrity. The system's safety features include an ozone detector by the control panel and a check valve to shut down the system.

6.0 REMEDIAL ACTION PERFORMANCE MONITORING

The performance monitoring program is established to evaluate the effectiveness of the in-situ chemical oxidation in mitigating the petroleum-impacted soil and groundwater at the site. During performance monitoring, the concentration distributions of the indicator parameters will be evaluated for general trends relative to the concentration of the gasoline and diesel-ranged petroleum hydrocarbons in groundwater beneath the site. Furthermore, the treatment monitoring process will be designed to quantify the degradation rates of the dissolved petroleum hydrocarbons in groundwater beneath the site. The performance monitoring will be performed quarterly for the first year, and semi-annually for the second year, if necessary. The following sub-sections provide a description of geochemical indicators of remediation processes, methodology and components of the post-application performance monitoring program.

The selection of geochemical indicators to be monitored will be adjusted at each monitoring event, as appropriate, based on previous monitoring results.

6.1 Groundwater Sampling and Monitoring

The static water level in each monitoring well will be measured with a water level meter. Each well will be inspected for the presence of free-phase product using a clear disposable bailer. Following depth to groundwater measurements, monitoring wells will be purged using a submersible pump. Three borehole volumes of groundwater will be purged from each well. The parameters of pH, temperature, conductivity, turbidity, and dissolved oxygen (DO), redox

potential (ORP) in the groundwater will be monitored with a water quality meter during the purging and sampling activities. After the wells recharged to at least 80% of the static water level**,** water samples will be collected using dedicated disposable bailers with a bottom-emptying device. The groundwater samples will be transferred to appropriate laboratory-supplied containers, properly labeled, and placed in a cooler maintained at 4±2 ºC for transport to the analytical laboratory. The following monitoring program will be performed:

Well ID	Parameter in Groundwater	Frequency
All on-site wells	Depth to water, pH, temperature, conductivity, turbidity, DO, ORP by field measurement	Quarterly for the first year, semi annual for the second year
MW-2 J-01 MW-101 MW-103 UH-P1	• TPH-d, TPH-g by EPA method 8015M • BTEX, and MTBE by EPA method 8260B • biochemical oxygen demand (BOD) by EPA method 405.1 • chemical oxygen demand (COD) by EPA method 410 heterotrophic plate count (HPC) by standard method 9215 Additionally, • bromate (reporting limit-5 ppb) and bromide (reporting limit-100 ppb)by EPA method 300 • vanadium (reporting limit-3 ppb), selenium (reporting limit-5 ppb), molybdenum (reporting limit-20 ppb) by EPA method 6010 • chromium (VI) (reporting limit-5 ppb) by EPA method 7196	Quarterly for the first year, semi annual for the second year
MW-301 MW-102	• TPH-d, TPH-g by EPA method 8015M • BTEX, and MTBE by EPA method 8260B	Quarterly for the first year, semi annual for the second year

6.2 Confirmation Soil Sampling

At the completion of the remedial action, two soil borings (SB-1 and SB-2) will be advanced. The boring location is shown in Figure 5. A well permit will be obtained from the County of Sonoma DHS prior to drilling. The drilling will be conducted by a C-57 licensed drilling contractor in accordance with the conditions of the approved well permit under the supervision of a registered civil engineer or registered geologist. The utility clearance survey will be secured prior to the commencement of fieldwork. The borings will be drilled using a truck mounted direct push drilling rig/hollow stem auger rig during the field work. The pre-probe with expendable tip will be driven to the desired maximum depth of 20 feet bgs. Subsurface soils will be recovered via acetate tubes. A total of three soil samples will be collected from each boring at depths of at 10 feet, 15 feet, and 20 feet bgs. Upon retrieval, each soil sample will be field screened for the presence of VOC vapors using a photo-ionization detector (PID). Subsurface

lithology will be logged according to the Unified Soil Classification System (USCS). Soil-sample-tube ends will be immediately sealed with Teflon sheets, covered with polyethylene caps, and labeled with indelible ink, indicating sample number, test method, and time of sample collection. The samples will be placed in a cooler maintained at 4±2 ^{o}C for transport to the analytical laboratory within the technical holding time and analyzed for TPH-d, TPH-g, BTEX, and MTBE.

6.3 Laboratory Analysis

The groundwater samples collected during the remedial action will be submitted to a state certified laboratory in good conditions with appropriate chain-of-custody documentation. The following analyses will be performed on groundwater samples according to the groundwater monitoring program:

- Total Petroleum Hydrocarbons (TPH) gasoline and diesel range by EPA method 8015 (modified),

- Volatile organic compounds including benzene, toluene, ethylbenzene, and xylenes (BTEX), fuel oxygenate methyl tertiary butyl ether (MTBE) by EPA method 8260B,

- Biochemical oxygen demand (BOD) by EPA method 405.1, chemical oxygen demand (COD) by EPA method 410, heterotrophic plate count (HPC) by standard method 9215, bromate and bromide by EPA method 300, vanadium, selenium, molybdenum by EPA method 6010, chromium (VI) by EPA method 7196.

The following constituents will be analyzed on soil samples:

- Total Petroleum Hydrocarbons (TPH) gasoline and diesel range by EPA method 8015M and TCLP procedure,

- Volatile organic compounds including BTEX, MTBE by EPA method 8260B and TCLP procedure.

6.4 Investigation-Derived Waste (IDW)

All soil cuttings generated during the drilling activities, will be stored in 55-gallon DOT-approved drums. All drums will be sealed, properly labeled, and stored at the site. All stored soil will be characterized and subsequently disposed offsite by a state-licensed waste-disposal company. The waste-disposal company will properly manifest (non-hazardous-waste-disposal manifests) and dispose the IDW at a state-approved waste disposal facility.

The wastewater generated during the groundwater monitoring events, including water generated from decontamination procedures and purging, will be stored in a 1000-gallon baker tank at the site. The tank will be sealed, properly labeled, and stored at the site. For wastewater disposal, a formal request for a annual discharge permit will be submitted to the Industrial Waste Inspector of the City of Santa Rosa Utilities Department. A representative water quality analysis will be submitted to the City of Santa Rosa Utilities Department and confirmed that the groundwater meet discharge requirements. The groundwater will be discharged to the sewer inlet located at

the facility. The discharge will be performed under the supervision of Industrial Waste Inspector from the City of Santa Rosa Utilities Department.

7.0 MONITORING PROGRAM DOCUMENTATION AND REPORTING

Semiannual groundwater monitoring and operation/maintenance (O&M) reports will be prepared to document the results of field performance monitoring activities and the progress towards mitigation of petroleum hydrocarbons at the site. All field notes will be available for inspections for the regulatory agencies and client. Any discussion and recommendation in regards to the remedial system alteration and monitoring program during the course of system's operation will be submitted to the County of Sonoma DHS, and regulatory approval will be obtained prior to the field activity. Upon completion of remedial action system and upon demonstration to the regulator that the site residual soil and groundwater concentrations analyzed for compounds of concern (i.e., TPH, VOC's and MTBE) meet the regulator's established clean up goals, SOTA will request a site closure status from the regulator.

8.0 REMEDIAL ACTION PLAN IMPLEMENTATION SCHEDULE

A preliminary remedial action implementation schedule is presented in Figure 6. The schedule presents the remedial approach activities/tasks and associated time frames for implementation. The proposed schedule may vary depending on client and regulatory agency review, and may also be dependent on future site development activities and equipment availability.

9.0 LIMITATIONS

During the preparation of this RAP, we attempted to review as much data as possible pertaining to the site in a tight schedule. This report presents opinions pertaining to the subject site, which are based, in part, on the assumption that the subsurface conditions do not deviate appreciably from those disclosed by the observed field conditions. The possibility that conditions are otherwise cannot be discounted.

The environmental remediation services described and proposed herein consist of professional opinions and recommendations made in accordance with generally accepted geotechnical and geological engineering principles and practices and based on our evaluation of the technical information gathered for and our general observations of conditions prevalent at the subject site. SOTA Environmental Technology, Inc. does not otherwise provide any implied or expressed guarantees regarding the characteristics or conditions of environmental media at the subject site and the performance of the project in any respect.

10.0 REFERENCES

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0 0.5 1

MILES

NORTH

TRUE

N

SITE LOCATION MAP
U-HAUL #708-57
3601 SANTA ROSA AVENUE
SANTA ROSA , CA

SOTA Environmental Technology, Inc.

FIGURE 1

PROJECT NO. 93HW014

MARCH 2006

CONCRETE

ASPHALT PAVEMENT

UH–P1
(94.59)

MW–2
(94.65)

MW–402
(95.72)

MW–103
(95.56)

MW–301
(95.18)

J–01
(94.58)

FORMER DISPENSER

FORMER DIESEL UST

(94.63)
MW–102

FORMER GASOLINE UST

EQUIPMENT WASH DOWN

MW–101
(90.44)

MW–203

MW–104

OFFICE

MW–202
(95.56)

94.6

95.0

95.4

95.0

95.0

CURB

FENCE LINE

LEGEND

◉ = GROUNDWATER MONITORING WELL

(92.53)
88

GROUNDWATER ELEVATION MEASURED 12/05
GROUNDWATER TABLE CONTOUR, WITH ARROWS INDICATING GROUNDWATER FLOW DIRECTION

0 30 60
FEET

GROUNDWATER GRADIENT MAP (12/05)

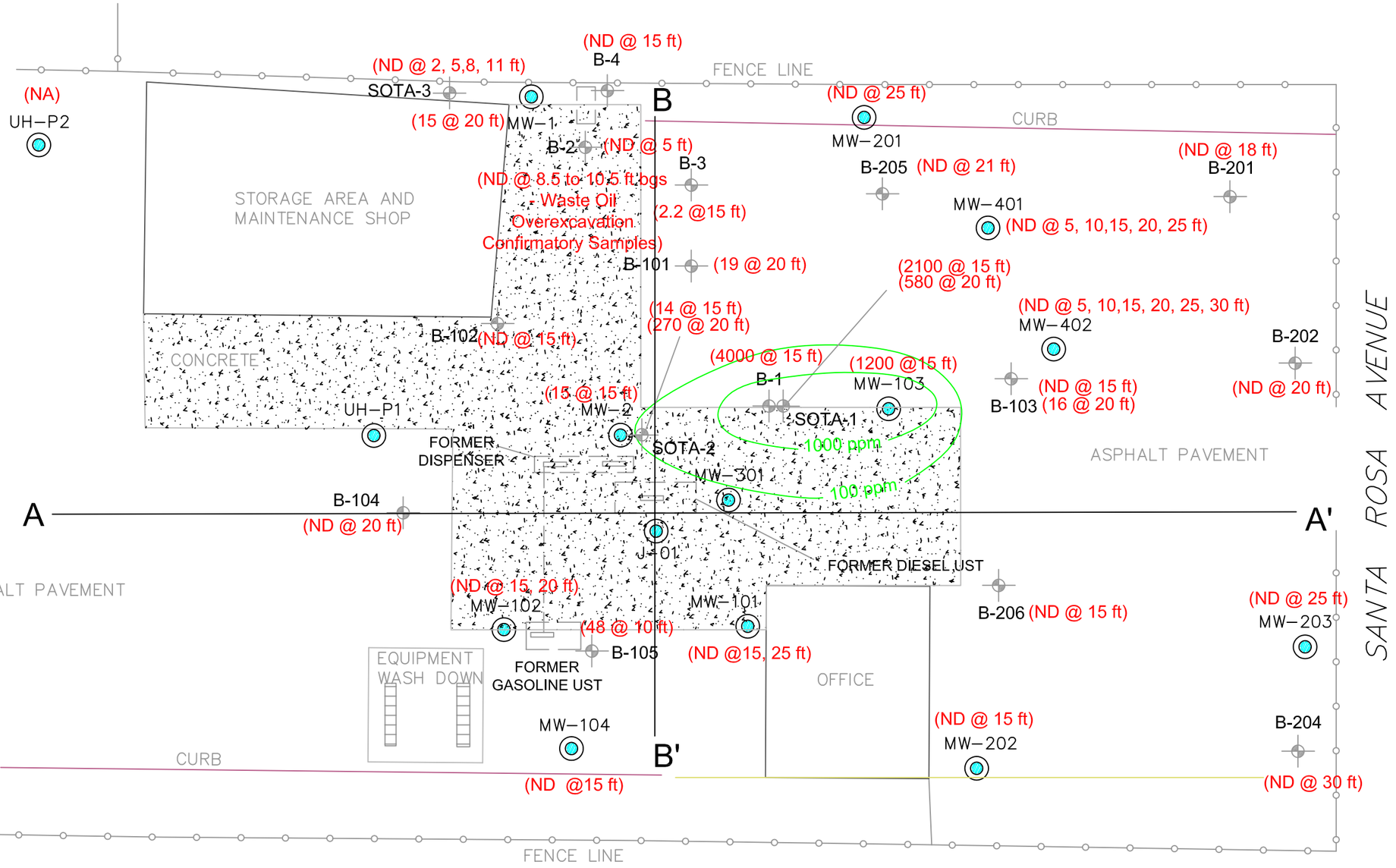
U-HAUL CENTER #708-57
3601 SANTA ROSA AVENUE
SANTA ROSA, CALIFORNIA

SOTA Environmental Technology, Inc.

FIGURE 2

PROJECT NO. 93HW014

MARCH 2006



LEGEND

MW–1	◎	GROUNDWATER MONITORING WELL
B–105	⊕	APPROXIMATE SOIL BORING LOCATION
SOTA–1	⊕	APPROXIMATE SOIL BORING LOCATION (SOTA, 02)

(ND) – Not Detected at Laboratory Detection Limits

(NA) – Not Available

(30 @ 15 ft) = Concentrations of Benzene in Soil at 30 ppm at 15 feet bgs.

All Concentrations Expressed in Milligrams per Kilogram (ppm)

A–A', B–B' – CROSS SECTIONS

APPROXIMATE HORIZONTAL EXTENT OF RESIDUAL TPH-g IN SOIL

U-HAUL CENTER #708-57

3601 SANTA ROSA AVENUE

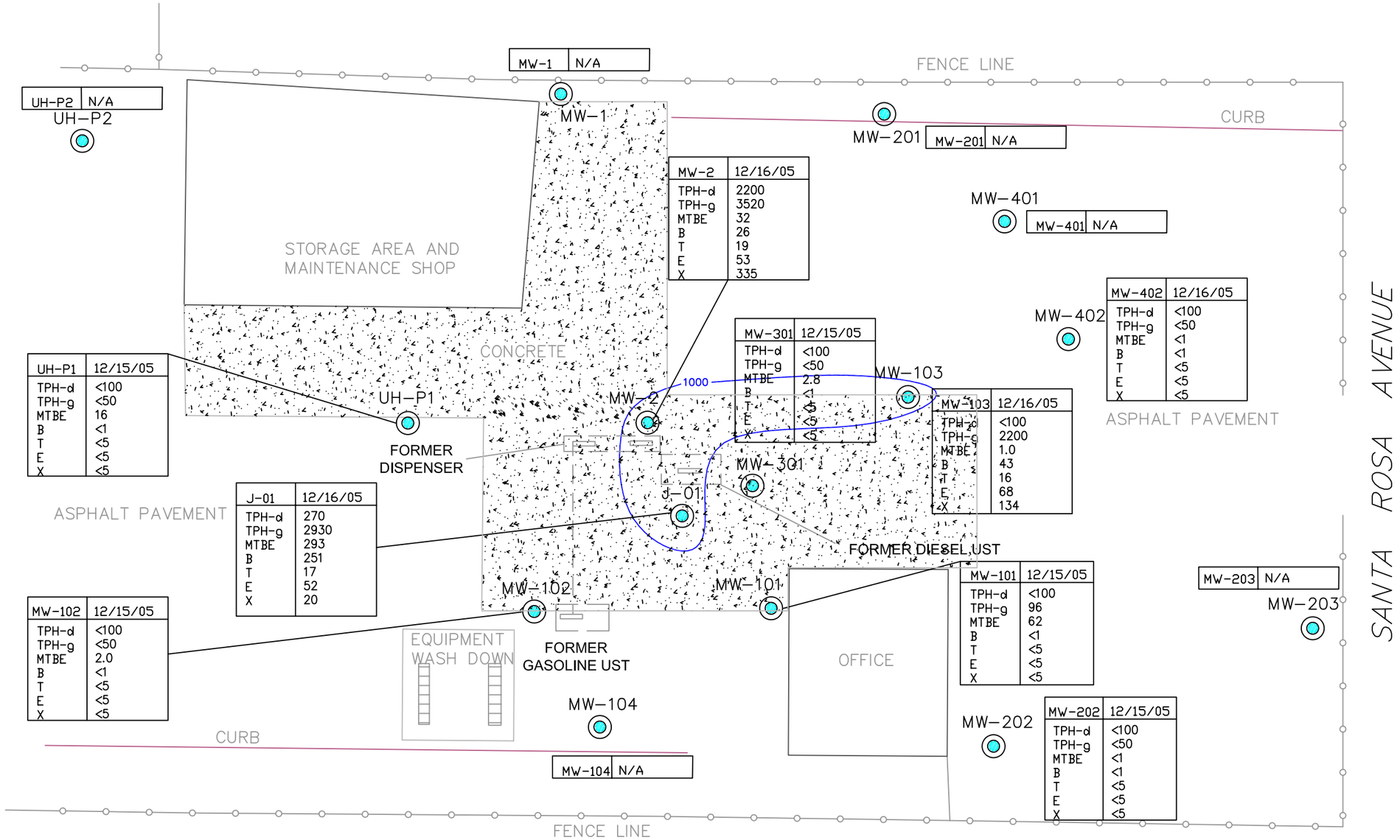
SANTA ROSA, CALIFORNIA

SOTA Environmental Technology, Inc.

FIGURE 3

PROJECT NO. 93HW014

MARCH 2006



LEGEND

MW-1 GROUNDWATER MONITORING WELL

1000 Extent of TPH-g (ug/L) in groundwater

ABBREVIATIONS:

TPH-d : DIESEL ug/L
TPH-g : GASOLINE ug/L
MTBE : METHYL TERTIARY BUTYL ETHER ug/L
B : BENZENE ug/L
T : TOULENE ug/L
E : ETHYLBENZENE ug/L
X : XYLENES ug/L
N/A : NOT SAMPLED.

0 30 60
FEET

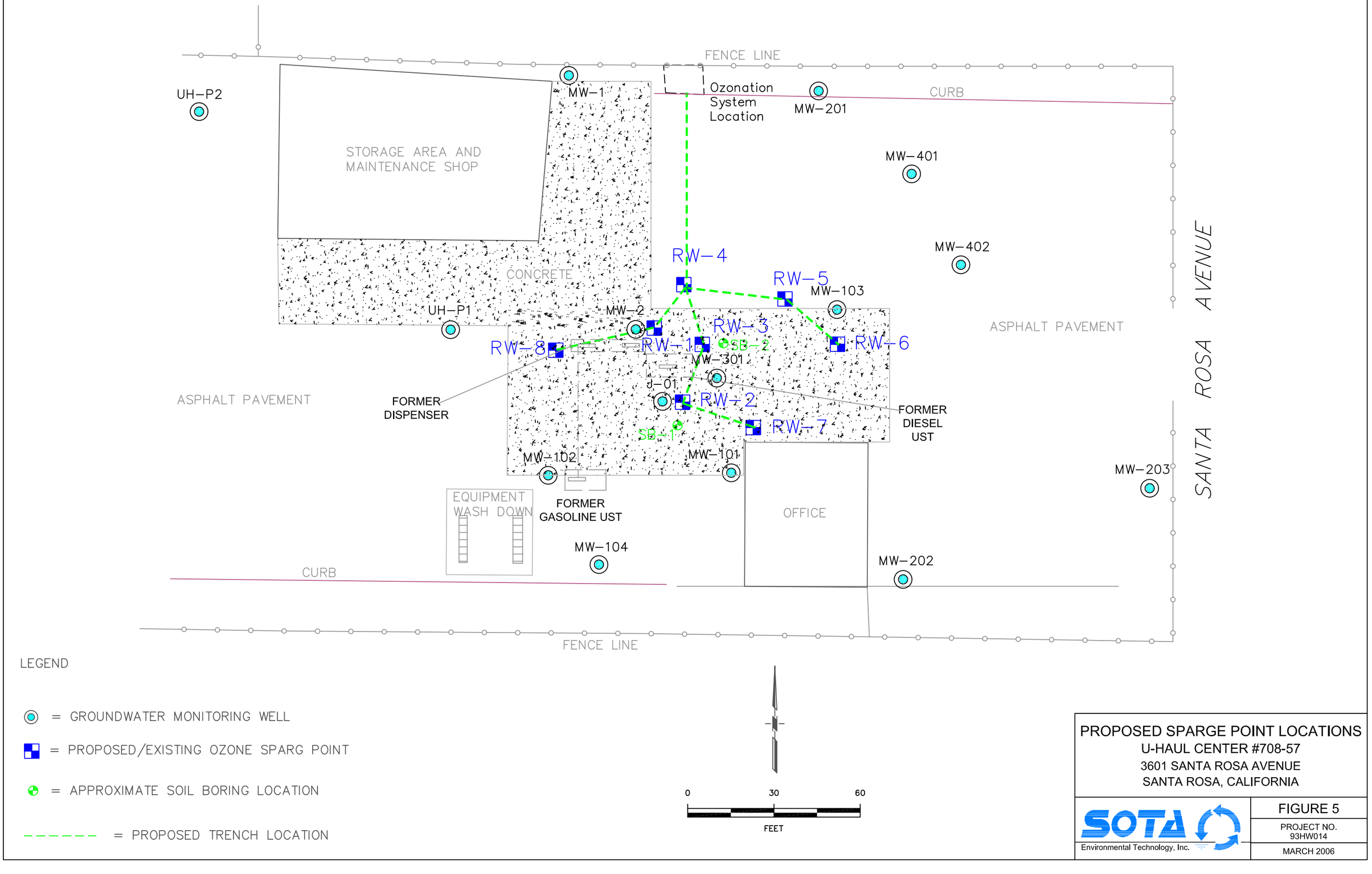
GROUNDWATER ANALYTICAL RESULTS
U-HAUL CENTER #708-57
3601 SANTA ROSA AVENUE
SANTA ROSA, CALIFORNIA

SOTA Environmental Technology, Inc.

FIGURE 4

PROJECT NO. 93HW014

MARCH 2006



PROPOSED SPARGE POINT LOCATIONS

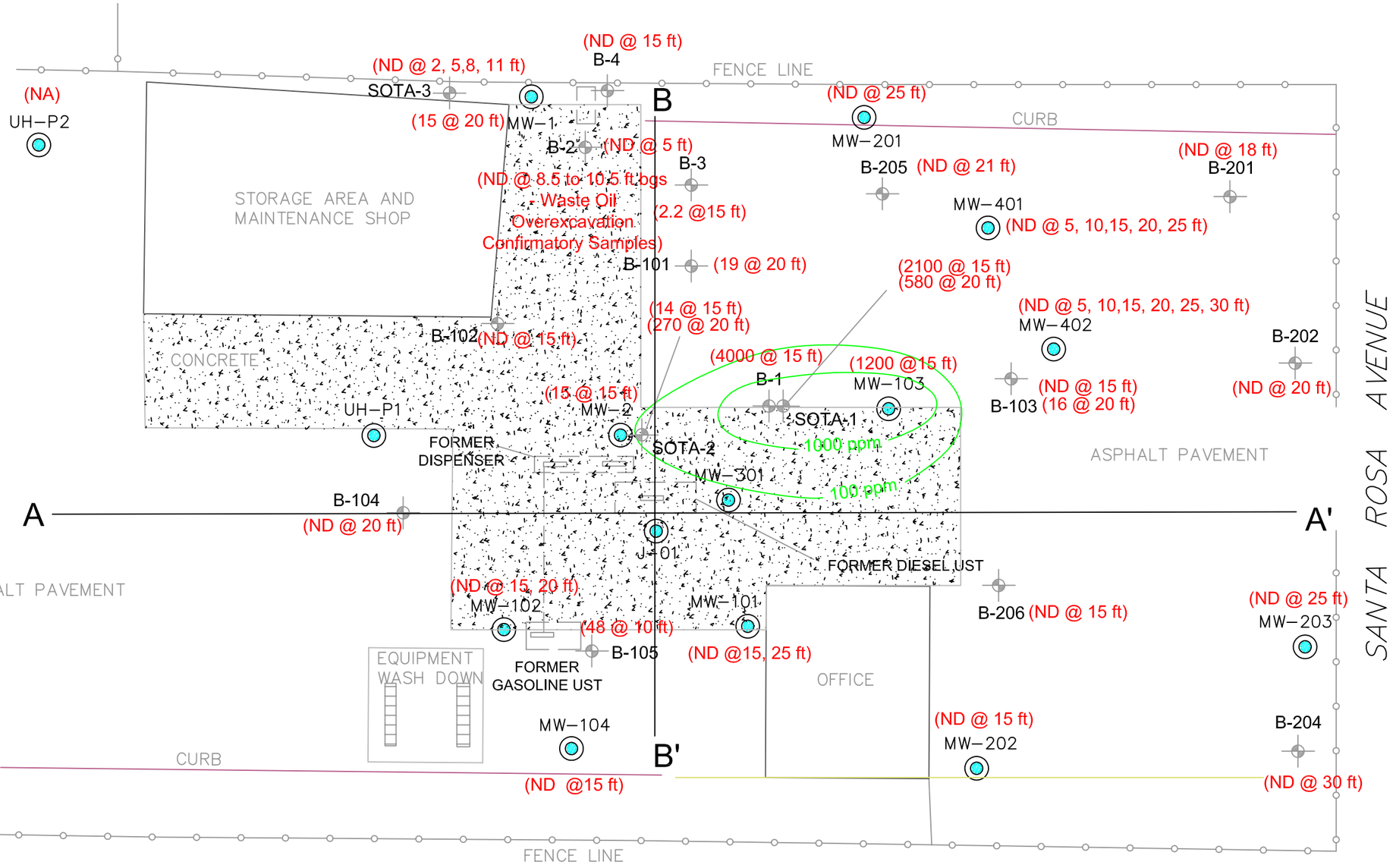
U-HAUL CENTER #708-57
3601 SANTA ROSA AVENUE
SANTA ROSA, CALIFORNIA

SOTA Environmental Technology, Inc.

FIGURE 5

PROJECT NO. 93HW014

MARCH 2006



LEGEND

MW–1	◎	GROUNDWATER MONITORING WELL
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SOTA–1	⊕	APPROXIMATE SOIL BORING LOCATION (SOTA, 02)

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All Concentrations Expressed in Milligrams per Kilogram (ppm)

A–A', B–B' – CROSS SECTIONS

APPROXIMATE HORIZONTAL EXTENT OF RESIDUAL TPH-g IN SOIL

U-HAUL CENTER #708-57

3601 SANTA ROSA AVENUE

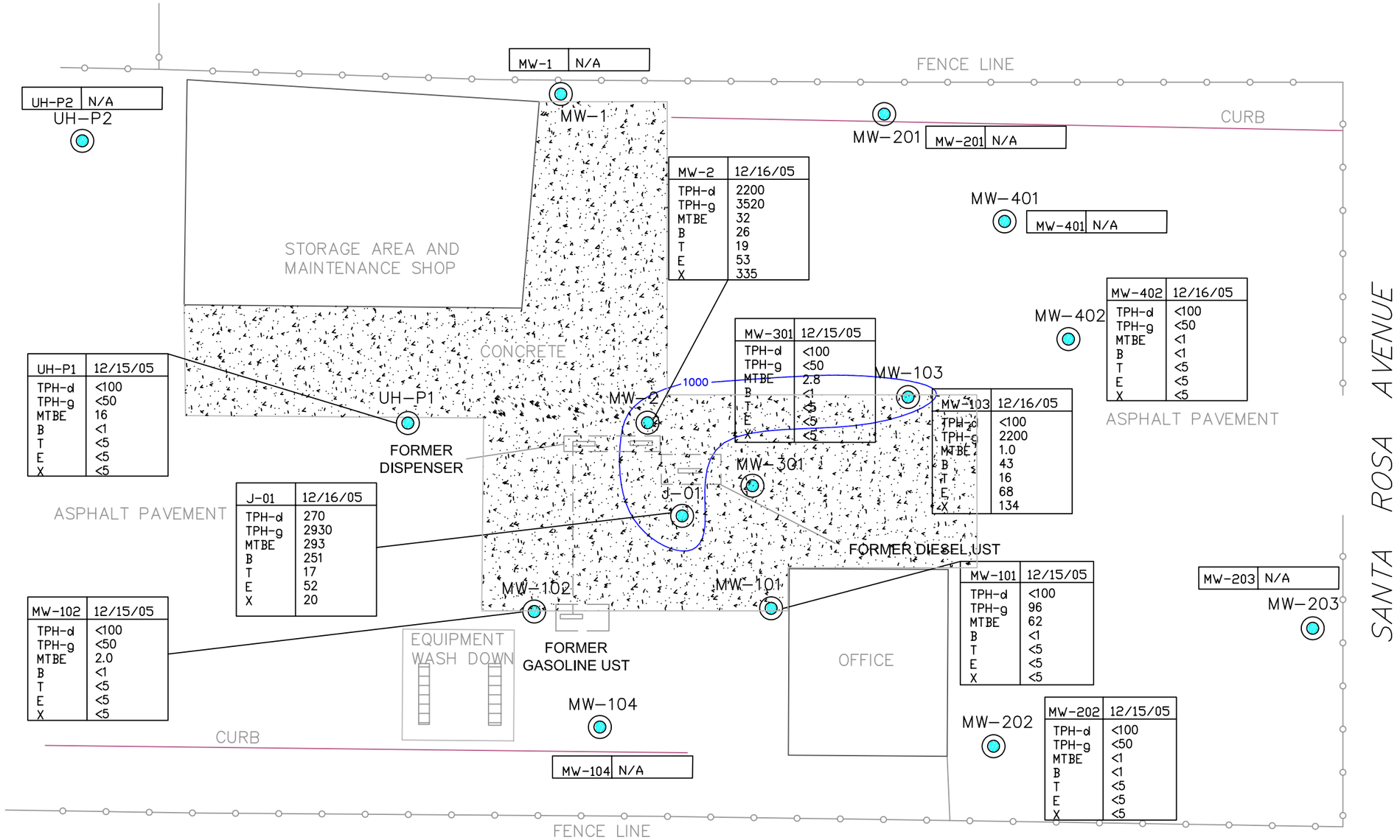
SANTA ROSA, CALIFORNIA

SOTA Environmental Technology, Inc.

FIGURE 3

PROJECT NO. 93HW014

MARCH 2006



LEGEND

MW-1 GROUNDWATER MONITORING WELL

1000 Extent of TPH-g (ug/L) in groundwater

ABBREVIATIONS:

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E : ETHYLBENZENE ug/L
X : XYLENES ug/L
N/A : NOT SAMPLED.

0 30 60
FEET

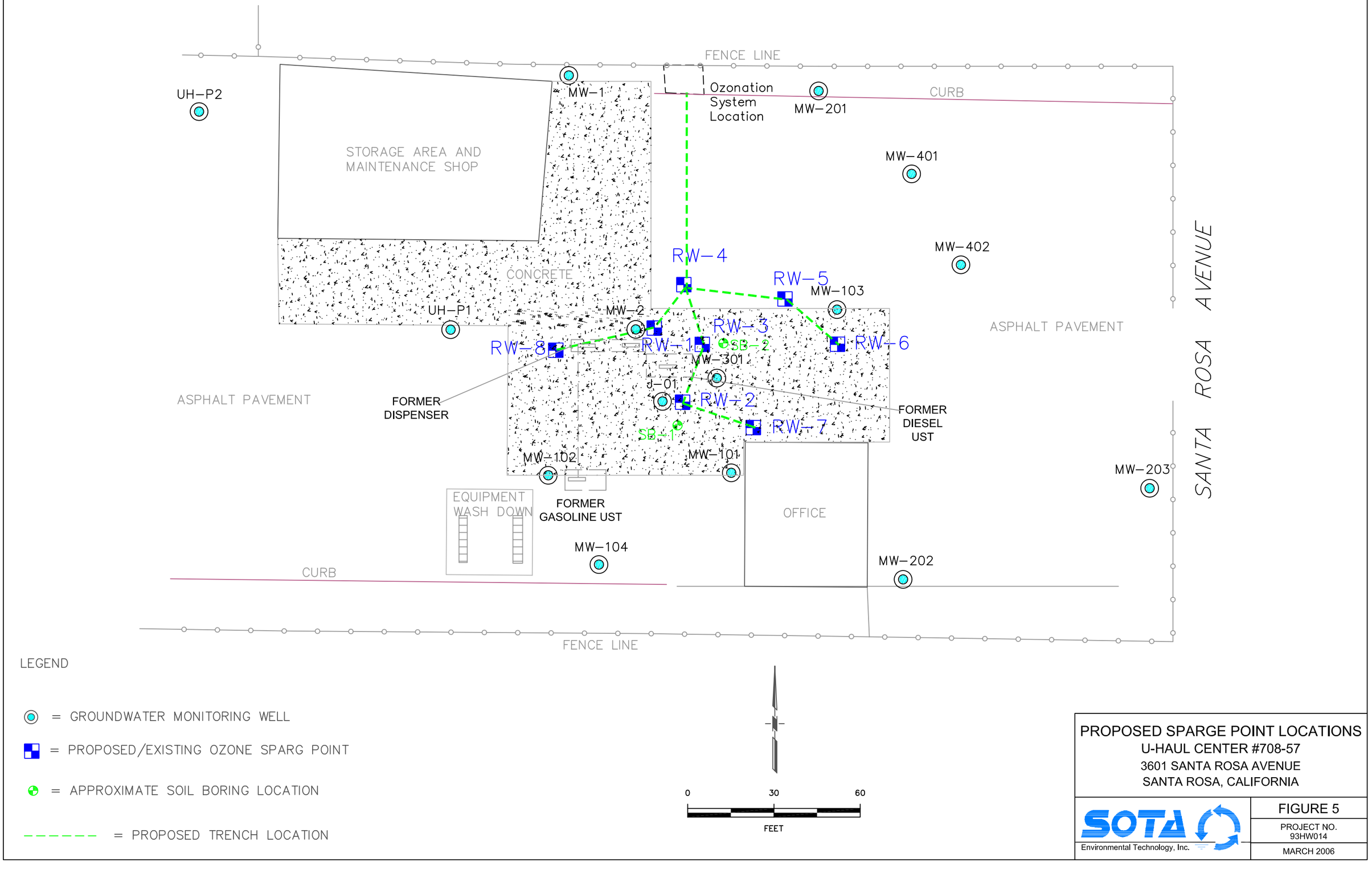
GROUNDWATER ANALYTICAL RESULTS
U-HAUL CENTER #708-57
3601 SANTA ROSA AVENUE
SANTA ROSA, CALIFORNIA

SOTA Environmental Technology, Inc.

FIGURE 4

PROJECT NO. 93HW014

MARCH 2006



PROPOSED SPARGE POINT LOCATIONS

U-HAUL CENTER #708-57
3601 SANTA ROSA AVENUE
SANTA ROSA, CALIFORNIA

SOTA Environmental Technology, Inc.

FIGURE 5

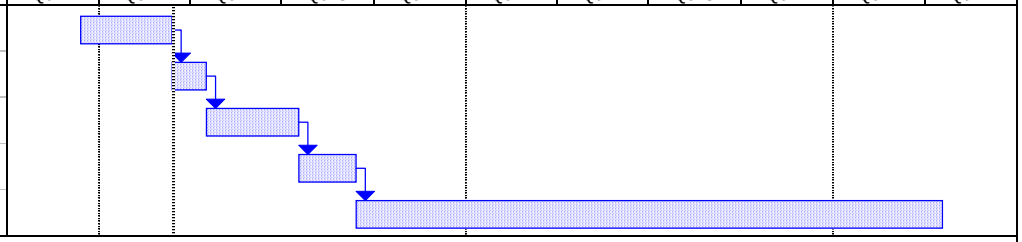
PROJECT NO. 93HW014

MARCH 2006

U-Haul International/Amerco Real Estate
3601 Santa Rosa Avenue
Santa Rosa, California

REMEDIATION OF PETROLEUM HYDROCARBON
IMPLEMENTATION SCHEDULE

ID	Task Name	Start	Finish
1	Remedial Action Plan (RAP) Submittal	Wed 12/14/05	Tue 3/14/06
2	Regulatory RAP Approval	Wed 3/15/06	Mon 4/17/06
3	RAP Implementation Permitting and Preparation	Tue 4/18/06	Tue 7/18/06
4	Remedial Approach Implementation - Installation	Wed 7/19/06	Wed 9/13/06
5	Performance Monitoring and Reporting	Thu 9/14/06	Fri 4/18/08



RAP IMPLEMENATATION

Task
Split
Progress
Milestone
Summary
Rolled Up Task
Rolled Up Split
Rolled Up Milestone
Rolled Up Progress
External Tasks
Project Summary

Figure 6